In the Claims

1) (Currently amended) a method for selecting a processor for a system, using a description of system requirements and system desires, said method ~~comprised of~~ comprising:

a) reading a list of processors and their attributes from a processor attribute table,

b) reading processor requirements from a processor specification list, and

c) eliminating all processors from said processor attribute table that do not meet said processor requirements.

2) (Original) The method of claim 1) including presenting an error message to the user if all processors have been eliminated from said processor attribute table.

3) (Currently amended) The method of claim 1) further including:

a) reading processor desires from a processor specification list,

b) assigning a value of 0 to each remaining processor in said processor attribute table,

c) adding 1 to the value of each processor in said processor attribute table for each processor desire that is an attribute of said processor in said processor attribute table, and

d) ranking according to the assigned values, highest to lowest, all processors that have not been eliminated from said processor attribute table.

4) (Currently amended) The method of claim 1) further including:

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a) reading processor desires and corresponding values for each desire from a processor specification list,

b) assigning a value of 0 to each remaining processor in said processor attribute table,

c) adding the value of each processor desire to the value of each processor in said processor attribute table for each processor desire that is an attribute of said processor in said processor attribute table, and

d) ranking according to the assigned values, highest to lowest, all processors that have not been eliminated from said processor attribute table.

5) (Currently amended) The method of determining the corresponding hardware device for a given hardware driver software source code routine, said method ~~comprised of~~ comprising:

a) searching for a description in the header of said hardware driver software source code routine, and

b) finding the name of the corresponding hardware device in said description.

6) (Currently amended) The method of determining the corresponding hardware device for each hardware driver software source code routine in a set of software source code files, said method ~~comprised of~~ comprising:

a) searching for a hardware driver software source code routine in all of said set of software source code files,

b) comparing said hardware driver software source code routine with each

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entry in a list of hardware driver software source code routines and corresponding hardware devices, and

c) repeating a) and b) for each hardware driver software source code routine in said set of software source code files.

7) (Currently amended) A method of creating an ~~HDL~~ description of a hardware system, said method ~~comprised of~~ comprising:

a) selecting a processor for a system, using a description of system requirements and system desires, said ~~method comprised of~~ selecting comprising:

i) reading a list of processors and their attributes from a processor attribute table,

ii) reading processor requirements from a processor specification list,

iii) eliminating all processors from said processor attribute table that do not meet said processor requirements,

iv) reading processor desires from a processor specification list,

v) assigning a value of 0 to each remaining processor in said processor attribute table,

vi) adding 1 to the value of each processor in said processor attribute table for each processor desire that is an attribute of said processor in said processor attribute table,

vii) selecting the processor with the highest assigned value from said

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processor attribute table, <u>and</u>

viii) selecting an HDL <u>hardware</u> representation of said selected

processor from a list of HDL <u>hardware</u> representations of processors,

b) determining the corresponding hardware device for <u>a</u> given hardware driver

software source code routine, said ~~method comprised of~~ <u>determining comprising</u>:

i) searching for descriptions in each header of each hardware driver

software source code routine,

ii) finding each corresponding hardware device that is named in said

description in the header of each hardware driver software source code routine,

<u>and</u>

iii) selecting an HDL <u>hardware</u> representation of each corresponding

hardware device from a list of HDL <u>hardware</u> representations of hardware

devices, <u>and</u>

c) combining said HDL <u>hardware</u> representation of said selected processor

with said HDL <u>hardware</u> representation of each selected hardware device into a single

HDL <u>hardware</u> representation of an entire system.

8)   (Currently amended) <u>The method of Claim 7) wherein said hardware</u>

<u>representation comprises a hardware description (HDL) language description</u> ~~A method of~~

~~creating a physical description of a hardware system, said method comprised of~~

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~~a) selecting a processor for a system, using a description of system~~

~~requirements and system desires, said method comprised of~~

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~~i) reading a list of processors and their attributes from a processor attribute table,~~

~~ii) reading processor requirements from a processor specification list,~~

~~iii) eliminating all processors from said processor attribute table that do not meet said processor requirements,~~

~~iv) reading processor desires and corresponding values for each desire from a processor specification list,~~

~~v) assigning a value of 0 to each remaining processor in said processor attribute table,~~

~~vi) adding the value of each processor desire to the value of each processor in said processor attribute table for each processor desire that is an attribute of said processor in said processor attribute table,~~

~~vii) ranking according to the assigned values, highest to lowest, all processors that have not been eliminated from said processor attribute table,~~

~~viii) selecting a physical representation of said selected processor from a list of physical representations of processors,~~

~~b) determining the corresponding hardware device for given hardware driver software source code routine, said method comprised of~~

~~i) searching for each hardware driver software source code routine in all of the software source code,~~

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ii) comparing said given hardware driver software source code routine with each entry in a list of hardware driver software source code routines and corresponding hardware devices.

iii) selecting a physical representation of each corresponding hardware device from a list of physical representations of hardware devices,

c) combining said physical representation of said selected processor with said physical representation of each selected hardware device into a single physical representation of an entire system.

9) (Currently amended) The method of Claim 7) wherein said hardware representation comprises a physical layout A method of creating a schematic description of a hardware system, said method comprised of

a) selecting a processor for a system, using a description of system requirements and system desires, said method comprised of

i) reading a list of processors and their attributes from a processor attribute table,

ii) reading processor requirements from a processor specification list,

iii) eliminating all processors from said processor attribute table that do not meet said processor requirements,

iv) reading processor desires from a processor specification list,

v) assigning a value of 0 to each remaining processor in said processor attribute table,

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~~vi) adding 1 to the value of each processor in said processor attribute table for each processor desire that is an attribute of said processor in said processor attribute table,~~

~~vii) selecting the processor with the highest assigned value from said processor attribute table,~~

~~viii) selecting a schematic representation of said selected processor from a list of schematic representations of processors,~~

~~b) determining the corresponding hardware device for given hardware driver software source code routine, said method comprised of~~

~~i) searching for each hardware driver software source code routine in all of the software source code,~~

~~ii) comparing said given hardware driver software source code routine with each entry in a list of hardware driver software source code routines and corresponding hardware devices.~~

~~iii) selecting a schematic representation of each corresponding hardware device from a list of physical representations of hardware devices,~~

~~c) combining said schematic representation of said selected processor with said schematic representation of each selected hardware device into a single schematic representation of an entire system.~~

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10)   (Currently amended) <u>The method of Claim 7) wherein said hardware representation comprises a circuit schematic</u> ~~A method of creating a netlist description of a~~

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hardware system, said method comprised of

a) selecting a processor for a system, using a description of system requirements and system desires, said method comprised of

i) reading a list of processors and their attributes from a processor attribute table,

ii) reading processor requirements from a processor specification list,

iii) eliminating all processors from said processor attribute table that do not meet said processor requirements,

iv) reading processor desires and corresponding values for each desire from a processor specification list,

v) assigning a value of 0 to each remaining processor in said processor attribute table,

vi) adding the value of each processor desire to the value of each processor in said processor attribute table for each processor desire that is an attribute of said processor in said processor attribute table,

vii) ranking according to the assigned values, highest to lowest, all processors that have not been eliminated from said processor attribute table,

viii) selecting a netlist representation of said selected processor from a list of netlist representations of processors,

b) determining the corresponding hardware device for given hardware driver

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software source code routine, said method comprised of

i) searching for descriptions in each header of each hardware driver software source code routine,

ii) finding each corresponding hardware device that is named in said description in the header of each hardware driver software source code routine,

iii) selecting an netlist representation of each corresponding hardware device from a list of netlist representations of hardware devices,

e) combining said netlist representation of said selected processor with said netlist representation of each selected hardware device into a single netlist representation of an entire system.

11)   (Currently amended) <u>The method of Claim 7) wherein said hardware representation comprises a circuit netlist</u> An apparatus for selecting a processor for a system, using a description of system requirements and system desires, comprising

a computer;

a processor selection program on said computer, wherein said processor selection program comprises:

a) means for reading a list of processors and their attributes from a processor attribute table,

b) means for reading processor requirements from a processor specification list,

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~~c) means for eliminating all processors from said processor attribute table that do not meet said processor requirements.~~

12) (Currently amended) ~~The apparatus of claim 11) including means for presenting an error message to the user if all processors have been eliminated from said processor attribute table.~~ An apparatus for selecting a processor for a system, using a description of system requirements and system desires, comprising

a computer;

a processor selection program on said computer, wherein said processor selection program comprises:

a) means for reading a list of processors and their attributes from a processor attribute table, and

b) means for reading processor requirements from a processor specification list, and

c) means for eliminating all processors from said processor attribute table that do not meet said processor requirements.

13) (Currently amended) The apparatus of Claim 12) further including means for presenting an error message to the user when all processors have been eliminated from said processor attribute table ~~The apparatus of claim 11) including~~

~~a) means for reading processor desires from a processor specification list,~~

~~b) means for assigning a value of 0 to each remaining processor in said processor attribute table,~~

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~~c) means for adding 1 to the value of each processor in said processor attribute table for each processor desire that is an attribute of said processor in said processor attribute table,~~

~~d) means for ranking according to the assigned values, highest to lowest, all processors that have not been eliminated from said processor attribute table.~~

14) (Currently amended) The apparatus of claim <u>12)</u> ~~11)~~ <u>further</u> including

a) means for reading processor desires and corresponding values for each desire from a processor specification list,

b) means for assigning a value of 0 to each remaining processor in said processor attribute table,

c) means for adding <u>1</u> ~~the value of each processor desire~~ to the value of each processor in said processor attribute table for each processor desire that is an attribute of said processor in said processor attribute table, <u>and</u>

d) means for ranking according to the assigned values, highest to lowest, all processors that have not been eliminated from said processor attribute table.

15) (Currently amended) <u>The apparatus of claim 12) further including</u>

<u>a) means for reading processor desires and corresponding values for each desire from a processor specification list,</u>

<u>b) means for assigning a value of 0 to each remaining processor in said processor attribute table,</u>

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c) means for adding the value of each processor desire to the value of each processor in said processor attribute table for each processor desire that is an attribute of said processor in said processor attribute table, and

d) means for ranking according to the assigned values, highest to lowest, all processors that have not been eliminated from said processor attribute table ~~An apparatus for determining the corresponding hardware device for a given hardware driver software source code routine, comprising~~

~~a computer;~~

~~a hardware device determination program on said computer, wherein said hardware device determination program comprises:~~

~~a) means for searching for a description in the header of said hardware driver software source code routine;~~

~~b) means for finding the name of the corresponding hardware device in said description.~~

16)   (Currently amended) An apparatus for determining the corresponding hardware device for ~~each~~ a given hardware driver software source code routine ~~in a set of software source code files~~, comprising:

a computer; and

a hardware device determination program on said computer, wherein said hardware device determination program comprises:

a) means for searching for a description in the header of said a

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hardware driver software source code routine ~~in all of said set of software source code files~~, <u>and</u>

b) means for finding the name of the ~~comparing said hardware driver software source code routine with each entry in a list of hardware driver software source code routines and~~ corresponding hardware ~~devices~~ <u>device</u> in said description~~,~~

~~c) means for repeating a) and b) for each hardware driver software source code routine in said set of software source code files.~~

17) (Currently amended) An apparatus for <u>determining the corresponding hardware device for each hardware driver software source code routine in a set of software source code files</u> ~~creating an HDL description of a hardware system~~, comprising

a computer;

<u>a hardware device determination program on said computer, wherein said hardware device determination program comprises:</u>

<u>a) means for searching for a</u> hardware driver software source code routine in all of said set of software source code files<u>, and</u>

<u>b) means for comparing said hardware driver software source code routine with each entry in a list of hardware driver software source code routines and corresponding hardware devices,</u>

<u>c) means for repeating a) and b) for each hardware driver software source code routine in said set of software source code files</u> ~~an HDL description creation program~~

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on said computer, wherein said HDL description creation program comprises:

a) means for selecting a processor for a system, using a description of system requirements and system desires, said means consisting of

i) means for reading a list of processors and their attributes from a processor attribute table;

ii) means for reading processor requirements from a processor specification list,

iii) means for eliminating all processors from said processor attribute table that do not meet said processor requirements,

iv) means for reading processor desires from a processor specification list,

v) means for assigning a value of 0 to each remaining processor in said processor attribute table,

vi) means for adding 1 to the value of each processor in said processor attribute table for each processor desire that is an attribute of said processor in said processor attribute table,

vii) means for selecting the processor with the highest assigned value from said processor attribute table,

viii) means for selecting an HDL representation of said selected processor from a list of HDL representations of processors,

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b) means for determining the corresponding hardware device for given hardware driver software source code routine, said means consisting of

i) means for searching for descriptions in each header of each hardware driver software source code routine,

ii) means for finding each corresponding hardware device that is named in said description in the header of each hardware driver software source code routine,

iii) means for selecting an HDL representation of each corresponding hardware device from a list of HDL representations of hardware devices,

c) means for combining said HDL representation of said selected processor with said HDL representation of each selected hardware device into a single HDL representation of an entire system.

18)   (Currently amended) An apparatus for creating a ~~physical~~ hardware description of a hardware system, comprising

a computer;

a hardware ~~physical~~ description creation program on said computer, wherein said hardware ~~physical~~ description creation program comprises:

a) means for selecting a processor for a system, using a description of system requirements and system desires, said means ~~consisting of~~ for selecting comprising:

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i) means for reading a list of processors and their attributes from a processor attribute table,

ii) means for reading processor requirements from a processor specification list,

iii) means for eliminating all processors from said processor attribute table that do not meet said processor requirements,

iv) means for reading processor desires ~~and corresponding values for each desire~~ from a processor specification list,

v) means for assigning a value of 0 to each remaining processor in said processor attribute table,

vi) means for adding <u>1</u> ~~the value of each processor desire~~ to the value of each processor in said processor attribute table for each processor desire that is an attribute of said processor in said processor attribute table,

vii) means for <u>selecting the processor with the highest assigned value</u> ~~ranking according to the assigned values, highest to lowest, all processors that have not been eliminated~~ from said processor attribute table, <u>and</u>

viii) means for selecting a ~~physical~~ <u>hardware</u> representation of said selected processor from a list of ~~physical~~ <u>hardware</u> representations of processors,

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b) means for determining the corresponding hardware device for given

hardware driver software source code routine, said means <u>for determining</u>

<u>comprising:</u> ~~consisting of~~

i) means for searching for <u>a description in each header of</u> each

hardware driver software source code routine ~~in all of the software~~

~~source code,~~

ii) means for <u>finding each</u> ~~comparing said given hardware driver~~

~~software source code routine with each entry in a list of hardware~~

~~driver software source code routines and~~ corresponding hardware

~~devices~~ <u>device that is named in said description</u>.

iii) means for selecting a ~~physical~~ <u>hardware</u> representation of

each corresponding hardware device from a list of ~~physical~~ <u>hardware</u>

representations of hardware devices,

c) means for combining said ~~physical~~ <u>hardware</u> representation of said

selected processor with said physical representation of each selected hardware

device into a single physical representation of an entire system.

19)   (Currently amended) <u>The apparatus of Claim 18)</u> wherein said hardware

<u>representation comprises a hardware description language (HDL) description</u> ~~An apparatus~~

~~for creating a schematic description of a hardware system, comprising~~

~~a computer;~~

~~a schematic description creation program on said computer, wherein said~~

~~schematic description creation program comprises:~~

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a) means for selecting a processor for a system, using a description of

system requirements and system-desires, said means consisting of

i) means for reading a list of processors and their attributes from

a processor attribute table,

ii) means for reading processor requirements from a processor

specification list,

iii) means for eliminating all processors from said processor

attribute table that do not meet said processor requirements,

iv) means for reading processor desires from a processor

specification list,

v) means for assigning a value of 0 to each remaining processor

in said processor attribute table,

vi) means for adding 1 to the value of each processor in said

processor attribute table for each processor desire that is an attribute of

said processor in said processor attribute table,

vii) means for selecting the processor with the highest assigned

value from said processor attribute table,

viii) means for selecting a schematic representation of said

selected processor from a list of schematic representations of

processors,

b) means for determining the corresponding hardware device for given

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~~hardware driver software source code routine, said means consisting of~~

~~i) means for searching for each hardware driver software source code routine in all of the software source code,~~

~~ii) means for comparing said given hardware driver software source code routine with each entry in a list of hardware driver software source code routines and corresponding hardware devices.~~

~~iii) means for selecting a schematic representation of each corresponding hardware device from a list of physical representations of hardware devices,~~

~~c) means for combining said schematic representation of said selected processor with said schematic representation of each selected hardware device into a single schematic representation of an entire system.~~

20)   (Currently amended) <u>The apparatus of Claim 18) wherein said hardware representation comprises a physical layout</u> ~~A apparatus for creating a netlist description of a hardware system, comprising~~

~~a computer;~~

~~a netlist description creation program on said computer, wherein said netlist description creation program comprises:~~

~~a) means for selecting a processor for a system, using a description of system requirements and system desires, said means consisting of~~

~~i) means for reading a list of processors and their attributes from~~

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a processor attribute table,

ii) means for reading processor requirements from a processor specification list,

iii) means for eliminating all processors from said processor attribute table that do not meet said processor requirements,

iv) means for reading processor desires and corresponding values for each desire from a processor specification list,

v) means for assigning a value of 0 to each remaining processor in said processor attribute table,

vi) means for adding the value of each processor desire to the value of each processor in said processor attribute table for each processor desire that is an attribute of said processor in said processor attribute table,

vii) means for ranking according to the assigned values, highest to lowest, all processors that have not been eliminated from said processor attribute table,

viii) means for selecting a netlist representation of said selected processor from a list of netlist representations of processors,

b) means for determining the corresponding hardware device for given hardware driver software source code routine, said means consisting of

i) means for searching for descriptions in each header of each

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~~hardware driver software source code routine,~~

~~ii) means for finding each corresponding hardware device that is named in said description in the header of each hardware driver software source code routine,~~

~~iii) means for selecting an netlist representation of each corresponding hardware device from a list of netlist representations of hardware devices,~~

~~c) means for combining said netlist representation of said selected processor with said netlist representation of each selected hardware device into a single netlist representation of an entire system.~~

21)   (New) The apparatus of Claim 18) wherein said hardware representation comprises a circuit schematic.

22)   (New) The apparatus of Claim 18) wherein said hardware representation comprises a circuit netlist..

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